



EUROPEAN CENTRAL BANK

EUROSYSTEM

Student Research Assistant – Traineeship Programme

Reference 2018-032-TRA

Type of contract	Traineeship of between 3 and 12 months in total.
Who can apply	EU nationals who are eligible according to our traineeship programme (https://www.ecb.europa.eu/careers/what-we-offer/traineeship/html/index.en.html)
Salary	The trainee grant is €1,050 per month plus an accommodation allowance.
Working time	Full-time
Place of work	Frankfurt am Main, Germany
Closing date for applications	19 February 2018

Your team

You will be part of the ECB's Directorate General Research (DG/R) and will support its work in one of the following:

- Macroeprudential modelling team, by contributing to the development, solution and estimation of linear and non-linear versions of the ECB's main model for macroprudential policy analysis, using MATLAB and Dynare.
- Household Finance and Consumption Network team, by compiling and analysing data from the Household Finance and Consumption Survey, using primarily Stata and contributing to the solution of heterogeneous agent models.
- Financial Research Division, by compiling and analysing large microeconomic cross-sectional and panel datasets, using primarily Stata or SAS and analysing large time series datasets, often with high-frequency data, using suitable econometrics software, such as MATLAB.
- Monetary Policy Research Division, by compiling time series datasets and analysing them using vector autoregression (VAR), Markov-switching models, state-space models and other techniques; compiling and analysing large microeconomic cross-sectional and panel datasets, using primarily Stata or SAS, and contributing to the solution and estimation of linear and non-linear structural models, including dynamic stochastic general equilibrium (DSGE) models, for monetary policy analysis, using MATLAB and Dynare.

- Senior management team, by compiling and analysing time series, cross-sectional and panel datasets.

The Student Research Assistant Traineeship Programme is aimed at high-performing students, with a strong quantitative background and an interest in policy-relevant and applied research. You are encouraged to apply if you have completed a bachelor's degree in economics, statistics, finance, computer science, mathematics or a related field, and you are enrolled in postgraduate studies (master's or PhD) for the same subject fields.

To further enhance the diversity of our team, we particularly encourage applications from female candidates.

Your role

As a Student Research Assistant Trainee, you will:

- construct and maintain monetary, financial and economic databases;
- present data in conjunction with basic economic and statistical analysis;
- program mathematical, statistical and econometric procedures for research projects;
- support and maintain software tools and hardware installations;
- help to maintain internet and intranet systems in DG/R.

Depending on your area of technical expertise, you will be assigned to projects in one of the teams or divisions mentioned above.

As a participant in the Programme, you will have the opportunity to work with DG/R's economists and management. You will support them in academic research projects and in work of an operational nature, such as the preparation of policy-related notes addressed to the ECB's Executive Board. The opportunity to work closely with DG/R's economists will allow you to develop your analytical skills and gain an insight into the ECB's research activities and policymaking processes. The Programme will also expose you to new ideas and stimuli that can provide a useful foundation for your future career and/or graduate studies. You will be part of a multicultural team that strives for continuous innovation to make a positive impact on the lives of European citizens.

Qualifications, experience and skills

The following qualifications, experience and skills are essential:

For all areas of technical expertise:

- for a standard traineeship, a bachelor's and ideally a master's degree (or at least one year of completed master's studies) in economics, statistics, finance, computer science, mathematics or a related field;

- for a PhD traineeship, at least two years of completed PhD studies in economics, statistics, finance, computer science, mathematics or a related field;
- familiarity with macroeconomic and financial statistics as contained in international databases (e.g. the ECB's Statistical Data Warehouse, Eurostat and Bank for International Settlements statistics, and International Monetary Fund financial statistics); experience with large databases (e.g. high-frequency data, administrative data, household or firm-level surveys, balance sheet data) would be a strong asset;
- a very good knowledge of spreadsheet and database programmes, such as MS Excel, SQL, Access and FAME and, in particular, Excel graphing capabilities, pivot tables and summary statistical functions;
- a very good knowledge of at least one or more standard econometrics packages, in particular MATLAB, Stata, R, EViews, OxMetrics, RATS and GAUSS;
- an advanced command of English and an intermediate command of at least one other official language of the EU.

You will bring to the macroprudential modelling team:

- experience with calibration and solution techniques of DSGE models; knowledge of Generalized Method of Moments (GMM), Maximum Likelihood and Bayesian techniques applied to DGE models would be an asset; knowledge of higher-order and non-linear methods and/or stochastic perturbation methods would be an asset;
- excellent command of MATLAB and Dynare;
- knowledge of models with credit frictions and macro, banking and financial (micro and time series) data.

You will bring to the Household Finance and Consumption Network team:

- excellent command of Excel and Stata; knowledge of some microeconomic datasets;
- familiarity with the Eurosystem Household Finance and Consumption Survey.

You will bring to the Financial Research Division:

- a thorough knowledge of and experience in compiling and analysing large microeconomic cross-sectional and panel datasets, using primarily Stata; or thorough knowledge of and experience in compiling and analysing large time-series datasets, often with high-frequency data, using primarily MATLAB and Stata; experience in software similar to Stata and/or MATLAB would be an asset; familiarity with at least some of the following databases/providers: Bloomberg, Datastream, Haver Analytics, Bureau van Dijk, Fitch Connect, SNL Financial, and Dealogic.

You will bring to the Monetary Policy Research Division:

- a deep understanding of and experience with solution, estimation and forecasting methods for structural and reduced-form econometric models (including structural VAR, semi-structural models, factor model and state-space/unobserved component models); a sound knowledge of Bayesian techniques.

You will bring to the senior management team:

- a thorough knowledge of and experience in compiling and analysing large microeconomic cross-sectional and panel datasets, using primarily Stata;
- excellent command of MATLAB and Dynare;
- experience/familiarity with content management systems, such as WordPress.

You are curious and eager to learn. You are keen to collaborate with others, pursue team goals and learn from other people's diverse perspectives. You bring your ability to communicate effectively, manage your own workload independently, prioritise tasks, manage multiple assignments simultaneously and support other team members.

Further Information

The traineeship will be for an initial period of three to six months, with a possible extension up to a total of twelve months depending on organisational needs and individual performance. Please indicate your preferred total length of stay (between three and twelve months) and starting date in your application.

Applications from candidates who are available outside the summer months are particularly welcome.

The PhD traineeship grant is €1,900 per month plus an accommodation allowance.

Application and selection process

Find more information under "How you can join us":

<http://www.ecb.europa.eu/careers/before-you-apply/html/index.en.html>.